In the Claims:

Please cancel claims 20-26, amend claims 1, 2, 8, 10, 11, 17 and 19, and add new claims 27 and 28 as indicated in the attached Version With Markings to Show Changes Made. The complete set of pending claims 1-19, 27 and 28, in amended form, is as follows.

1. (Amended) A process for forming a semiconductor product, comprising the steps of:

providing a semiconductor substrate having a semiconductor surface;

introducing N-type dopant impurities into said semiconductor surface, thereby forming N-doped regions within said semiconductor surface;

introducing nitrogen into at least one of said N-doped regions to form at least one capacitor region; and,

A1

thermally oxidizing said substrate surface to form an oxide film on said semiconductor surface, said oxide film having a first thickness in said at least one capacitor region and a second thickness being greater than said first thickness in other portions of said N-doped regions; and

forming a capacitor by forming a top capacitor plate over each capacitor region.

2. (Amended) The process as in claim 1, in which said forming a top capacitor plate comprises forming one of a conductive material and a semiconductor material.

3. The process as in claim 1, in which said step of introducing nitrogen comprises ion implantation.

4. The process as in claim 3, in which said step of introducing nitrogen includes an implant energy within the range of 5-9 keV and an implant dosage which lies within the range of $10^{14}/cm^2$ to $10^{15}/cm^2$.

5. The process as in claim 1, in which said step of thermally oxidizing includes forming said oxide film having said first thickness being less than 50% of said second thickness.

6. The process as in claim 1, in which said first thickness is less than 55 angstroms and said second thickness lies within the range of 80-150 angstroms.

7. The process as in claim 1, in which said step of introducing N-type dopant impurities includes forming said N-doped regions to include an N-type impurity concentration which lies within the range of $10^{18}/cm^3$ to $10^{19}/cm^3$.

A2

8. (Amended) The process as in claim 1, in which said capacitor region includes a nitrogen density within the range of 10^{17} to $10^{19}/cm^3$.

9. The process as in claim 1, in which semiconductor surface regions in which said N-type dopant impurities are not introduced, are designated undoped regions, and said step of thermally oxidizing includes forming said oxide film having a third thickness in said undoped regions, said third thickness being less than 50% of said second thickness.

10. (Amended) The process as in claim 1, further comprising the step of defining said at least one capacitor region prior to said step of introducing nitrogen, said defining comprising forming a masking pattern in a photosensitive material.

A3

11. (Amended) The process as in claim 10, in which said masking pattern includes each capacitor region forming a lower capacitor electrode, having a rectangular shape and including sides ranging from 2 to 100 microns in length.

12. The process as in claim 1, wherein said thermally oxidizing comprises furnace oxidation at a temperature ranging from 750°C to 950°C, for a time ranging from 5 to 15 minutes.

13. The process as in claim 1, wherein said N-type dopant impurity comprises one of phosphorous and arsenic.

14. The process as in claim 1, in which said step of introducing nitrogen comprises introducing nitrogen into at least one entire N-doped region of said N-doped regions.

15. The process as in claim 1, in which said step of introducing nitrogen includes introducing nitrogen into a first portion of a designated N-doped region, a second portion of said designated N-doped region not having nitrogen introduced therein.

16. The process as in claim 1, wherein said semiconductor substrate comprises silicon and said oxide film comprises silicon dioxide.

A4

17. (Amended) The process as in claim 1, wherein said thermally oxidizing comprises forming said oxide film such that said second thickness is greater than said first thickness by at least 80%.

18. The process as in claim 17, in which said step of thermally oxidizing includes forming said oxide film having a third thickness in undoped regions of said silicon surface, said third thickness and said first thickness being substantially equal.

A5

19. (Amended) The process as in claim 28, wherein said semiconductor product comprises a Metal Oxide Semiconductor (MOS) capacitor, and further comprising forming a top capacitor plate of at least one of a conductive material and a semiconductor material over said at least one nitrogen region.

27. (New) A process for forming a semiconductor product, comprising the steps of:

providing a semiconductor substrate having a semiconductor surface;

introducing N-type dopant impurities into said semiconductor surface, thereby forming N-doped regions within said semiconductor surface;

defining at least one nitrogen region within at least one of said N-doped regions by forming a masking pattern in a photosensitive material, each nitrogen region having a rectangular shape and including sides ranging from 2 to 100 microns in length;

A6 introducing nitrogen into said at least one nitrogen region, each nitrogen region forming a lower capacitor electrode; and,

thermally oxidizing said substrate surface to form an oxide film on said semiconductor surface, said oxide film having a first thickness in said at least one nitrogen region and a second thickness being greater than said first thickness in other portions of said N-doped regions.

28. (New) A process for forming a semiconductor product, comprising the steps of:

providing a semiconductor substrate having a semiconductor surface;

introducing N-type dopant impurities into said semiconductor surface, thereby forming N-doped regions within said semiconductor surface;

introducing nitrogen into at least one entire N-doped region of said N-doped regions to form at least one nitrogen region; and,

thermally oxidizing said substrate surface to form an oxide film on said semiconductor surface, said oxide film having a first thickness in said at least one nitrogen region and a second thickness being greater than said first thickness in other portions of said N-doped regions.

REMARKS

Claims 1-26 were previously pending in this application, and claims 27 and 28 are hereby added. Claims 20-26 had been withdrawn from consideration and are hereby cancelled. Claims 11 and 14 were objected to. Claims 1-10, 12, 13 and 15-19 were rejected.